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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,896	06/20/2005	Hideki Miyanishi	037297.55537US	6423
23911	7590	09/26/2006	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			SINGH, KAVEL	
			ART UNIT	PAPER NUMBER
			3651	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/511,896

Applicant(s)

MIYANISHI ET AL.

Examiner

Kavel P. Singh

Art Unit

3651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/20/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### **Claim Objections**

The claims are objected to because, as provided in 37 CFR 1.75(i), each element or step of the claim should be separated by a line indentation. Appropriate correction is required.

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document.

The claims narratively mention several elements without actually stating whether the claimed device in fact comprises such elements.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Fenty U.S.

Patent No. 5,277,301.

Art Unit: 3651

Claims 1,6,8, and 11, Fenty discloses a plurality of transfers pieces (58,60) comprising of erect flat space members (62) connected to both end sides of connection members which constitute a transfer passage of articles that move in the direction of transfer relative to each other (C3 L49-54); transfer pieces can be poled in a vertical spiral by allowing the upper side positioned spacer member to rise on a spacer member positioned under (C3 L32-35); spacer member (58,60) is formed to have an inside-part and an outside-part continuing to the inside-part and offsetting from the inside-part outward in lateral direction perpendicular to the transfer direction and having a contact face formed at the upper end part and the lower engaging part of a space member rises on the upper engaging part of a vertically downwardly adjacent spacer member to be supported via the contact fact of each engaging part (C3 L46-48); the engaging parts bending oppositely to each other in lateral direction perpendicular to the transfer direction so that the upper part and lower part of the spacer members adjacent to each other in the vertical direction can contact with each other(C3 L46-48); a spiral pile (32) of the transfer conveyer is formed by piling the transfer pieces vertically along a spiral by allowing the lower engaging part of a spacer member to rise on the upper engaging part of a vertically downwardly adjacent spacer to be supported via the contact face of each engaging part (C3 L24-27), the spirally piled (32) transfer conveyer is accommodated in a heat insulated room (24,26,28) (C2 L68;C3 L1-4), and an endless transfer conveyer is composed by connecting the entrance and way-out (16,18) of the transfer conveyer to and from the heat insulated room (24,26,28) (C2 L56-58).

Claim 2 and 9, Fenty teaches outside end of the upper engaging part and lower engaging (72,76) part of the spacer member (60) is bent to form an inclined part inclined by a certain angle to the vertical direction so that the movement of the transfer piece in lateral directions perpendicular to the transfer direction can be retained (C4 L1-7).

Claim 3 and 10, Fenty discloses both end parts of bar-like connection members are fixed to the outside-part of the pair of space members; an oblong hole (78) along the transfer direction is made in the inside-part of the space members (58); and the transfer conveyor is composed that both end part of the connection members (62) pass through the oblong holes of the spacer members (78) to be movable relative to the pair of space members (58) so each transfer piece can move relative to each other in the transfer direction by loose fit of the connection member in the oblong hole (C45 L3-7).

Claim 4, Fenty discloses that the bar-like members (62) are fixed to the outside-part of the pair of space members (58,60), which are extended beyond the fixed parts and bent upwards to form guide parts (86) that support members on both sides; and the end of the extended portion is bent in the horizontal direction to be fixed to the upper engaging part of the outside-part of the space member (58,60) to reinforce the space member (C4 L34-38).

Claim 5, Fenty teaches a chain lines (112) move in the horizontal direction driven by a motor (114) (C5 L50-52); the supports are attached to the chains so that the lower ends of the transfer pieces rise on the supporters; the traveling of the chains is transmitted to the transfer conveyors by the contact of the lower ends of the transfers pieces as the advance together (C5 L55-60).

Claim 7 and 12, Fenty teaches a refrigerating machine (22) is installed in the space formed inside the spiral of the spirally piled transfer conveyer (C59-60).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fenty U.S. Patent No. 5,277,301 in view of Killen U.S. Patent No. 3,783,777.

Claims 13,15,18, and 19, Fenty teaches a refrigerating food transporting systems utilizing a chain driven assembly but does not disclose multiple chain drives. Killen teaches an inside chain (27) to allow one of the pair of the spacer members riding on the inside chain (27) to move together with the inside chain (27) and an outside chain (29) to allow the other of the pair of the spacer members riding on the outside chain (29) to move together with the outside chain (29) are provided, each of the spacer members contacting the chain with said contact face to ride on the chain, and the inside chain and outside chain are driven by a single motor (11) (C3 L26-40); and the inside chain (27) and outside chain (29) and tension springs (49,51) each to pull each tension pulley for tensioning the chains(C3 L42-49). At the time of the invention it would have been obvious to one of ordinary skill in the art to employ the multiple chain driven system into

the invention of Fenty as taught by Killen in order to ensure the space members are constantly moving in case a chain breaks.

Claim 14, Fenty teaches a spiral conveyor system, but does not utilize multiple chains and sprockets with a single drive. Killen teaches an inside chain (27) and outside chain (29) that are looped respectively over an inside sprocket (85) and an outside sprocket (87) driven by a single motor (11) (C4 L3-6), a speed change gear drive (61) is mounted between the inside sprocket (23) and outside sprocket (25) to reduce the rotation speed of the inside sprocket (23) to be slower than the rotation speed of the outside sprocket (25), and the axes of rotation shafts to drive (11) the sprockets (23,25) are disposed horizontally (C3 L55-61). At the time of the invention it would have been obvious to one of ordinary skill in the art to employ the multiple chain driven system with a speed change drive into the invention of Fenty as taught by Killen in order to maintain control of the conveyor speed and part handling.

Claim 16, Fenty teaches a chain driven system, but does not specify the gear ratio.

Killen teaches that the ratio of number of teeth of the inside gear (103) connected to the inside sprocket to that of the outside gear (104) connected to the outside sprocket is determined to coincide with the ratio of the curvature radius of the outside chain (29) at the outside sprocket to that of the inside chain (27) at the inside sprocket (C4 L17-29). At the time of the invention it would have been obvious to one of ordinary skill in the art to connect the inside sprocket to the outside gear with multiple chains into the invention

of Fenty as taught by Killen in order to drive a set rollers individually from another using a single drive source.

Claim 17, Fenty teaches a chain driven system, but does not disclose multiple chains with the ability to be curved in a lateral direction. Killen teaches an inside chain and outside chain that are composed to be curved chains deformable in lateral direction perpendicular to the direction along the transfer direction of the transfer passage (C4 L45-51). At the time of the invention it would have been obvious to one of ordinary skill in the art add flexibility of multiple chains to move in the lateral position into the invention of Fenty as taught by Killen in order to drive a set rollers individually from another using a single drive source.

### ***Conclusion***

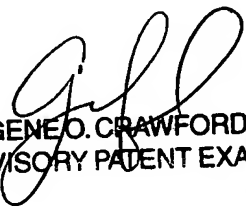
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kavel P. Singh whose telephone number is (571) 272-2362. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KPS

  
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SUPERVISORY PATENT EXAMINER